

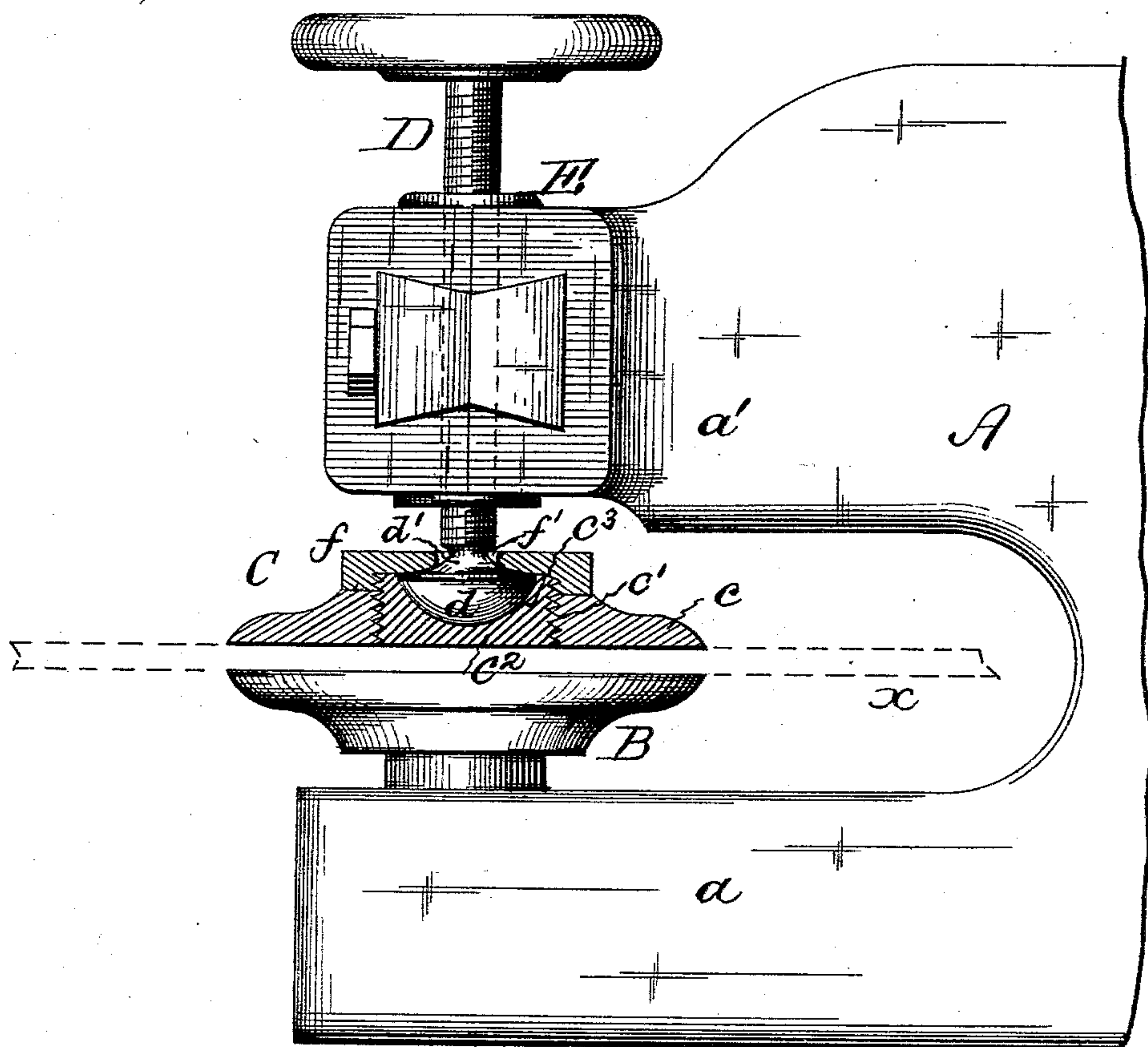
(No Model.)

S. McCARTER.

DEVICE FOR CLAMPING PLATES OR SHEETS OF METAL.

No. 373,672.

Patented Nov. 22, 1887.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

SAMUEL McCARTER, OF NORRISTOWN, PENNSYLVANIA, ASSIGNOR TO JOHN D. NEWBOLD, OF SAME PLACE.

## DEVICE FOR CLAMPING PLATES OR SHEETS OF METAL.

SPECIFICATION forming part of Letters Patent No. 373,672, dated November 22, 1887.

Application filed August 3, 1887. Serial No. 246,023. (No model.)

*To all whom it may concern:*

Be it known that I, SAMUEL McCARTER, a citizen of the United States, residing at Norristown, in the county of Montgomery and State of Pennsylvania, have invented certain new and useful Improvements in Screw-Clamps for Boiler or Sheet-Metal Plates, of which the following is a specification.

My invention has relation to screw-clamps for holding boiler, sheet-metal, or other analogous plates while being trimmed, cut, or otherwise finished; and it has for its object to so construct one of the clamping heads or jaws that both clamping heads or jaws bite or press evenly throughout their entire clamping surface or area upon the plate placed between them, to more firmly and securely hold the plate in position while undergoing cutting or finishing, and also to avoid all torsional strain upon the clamping jaws or heads and upon the actuating-screw.

My invention accordingly consists of the combination, construction, and arrangement of parts, as hereinafter described and claimed, reference being had to the accompanying drawing, which represents a sectional elevation of a screw-clamp embodying my improvements, the frame-work of which is partly broken away.

A represents the yoke shaped or other suitably-configured frame or housing. Upon one limb, *a*, of said yoke is mounted the fixed clamp jaw or head B, which may be arranged to rotate or not, as desired, and in the other limb, *a'*, is mounted the movable or screw-clamp jaw or head C. The screw D and box or bearing E for jaw or head C are constructed and arranged for operation in any of the well-known ways, or as shown.

The jaws or heads B and C are preferably disk-shaped, as indicated, the jaw B being in one piece; but the jaw C, when large in diameter, is preferably composed of an outer ring, *c*, having central threaded opening, *c'*, into which screws a plug or center piece, *c''*, having in its upper side a semi-spherical socket or chamber, *c'''*, for a ball or semi-spherical enlargement, *d*, or the lower end of screw D. The plug or threaded center piece of disk C projects above the top of its ring *c*, for engagement with a threaded nut, *f*, loose on screw D, or on a shoulder, *d'*, at the junction of ball *d* with the screw D. The nut *f* has a central

socket-opening, *f'*, conforming to the outline of the upper part of the ball or enlargement *d*, and loosely secures the jaw or head C to screw D, so as to provide a loose ball-and-socket connection for the same, to admit of turning the screw independently of jaw C, and of affording a limited rocking motion for jaw C in any direction, whereby it moves or rocks when brought into impingement with jaw B, to occupy a plane exactly parallel with that of the jaw B, irrespective of whether the jaw B is level or not; and this being the case, it follows that both jaws or heads will bite each other or a plate, *x*, placed between them throughout their entire clamping areas or surfaces, and not upon one side or at one portion of their peripheries, as would be the case if the jaw C had no rocking motion and the jaw B was more or less out of level.

As the jaws bite throughout their entire clamping-surfaces, they more firmly and securely clamp the sheet metal placed between them, and all lateral or torsional strain upon the jaws B C and upon screw D is avoided.

What I claim is—

1. The combination of a yoke-frame, A, the fixed jaw B, movable jaw C, screw D, and a ball-and-socket connection between jaw C and screw D, substantially as set forth.

2. The combination of clamping-jaw B, a frame, screw D, having ball end *d*, and jaw C, composed of outer ring, *c*, threaded center piece, *c''*, and nut *f*, forming a socket for said ball end, substantially as set forth.

3. In a clamping device, a screw-rod, D, having end *d*, a head or jaw, C, composed of outer ring, *c*, threaded center piece, *c''*, projecting above the top of ring *c* and having a socket adapted to screw end *d*, and a fastening-nut, *f*, loose on screw D and engaging with said center piece, substantially as set forth.

4. In a screw-clamp for holding sheet-metal plates, a fixed jaw or head, B, a movable jaw, C, having a socket, *c''*, exteriorly-threaded nut *f*, and screw-rod D, having enlarged end *d*, adapted to socket *c''*, and nut *f*, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

SAMUEL McCARTER.

Witnesses:

JOHN J. CORSON,  
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